DERIVADAS DE LAS FUNCIONES ELEMENTALES

Simple		Compuesta	
Función	**Derivada**	**Función**	**Derivada**
$y = k$	$y' = 0$		
$y = x^n$	$y' = nx^{n-1}$	$y = f(x)^n$	$y' = nf(x)^{n-1} \cdot f'(x)$
$y = \frac{1}{x}$	$y' = \frac{-1}{x^2}$	$y = \frac{1}{f(x)}$	$y' = \frac{-f'(x)}{f(x)^2}$
$y = \sqrt{x}$	$y' = \frac{1}{2\sqrt{x}}$	$y = \sqrt{f(x)}$	$y' = \frac{f'(x)}{2\sqrt{f(x)}}$
$y = \sqrt[n]{x}$	$y' = \frac{1}{n \cdot \sqrt[n]{x^{n-1}}}$	$y = \sqrt[n]{f(x)}$	$y' = \frac{f'(x)}{n \cdot \sqrt[n]{f(x)^{n-1}}}$
$y = e^x$	$y' = e^x$	$y = e^{f(x)}$	$y' = f'(x) \cdot e^{f(x)}$
$y = a^x$	$y' = a^x \cdot \ln a$	$y = a^{f(x)}$	$y' = f'(x) \cdot a^{f(x)} \cdot \ln a$
$y = \ln x$	$y' = \frac{1}{x}$	$y = \ln f(x)$	$y' = \frac{f'(x)}{f(x)}$
$y = \log_a x$	$y' = \frac{1}{x \ln a}$	$y = \log_a f(x)$	$y' = \frac{f'(x)}{f(x) \ln a}$
$y = senx$	$y' = \cos x$	$y = sen(f(x))$	$y' = f'(x) \cdot \cos(f(x))$
$y = \cos x$	$y' = -senx$	$y = \cos(f(x))$	$y' = -f'(x) \cdot sen(f(x))$
$y = tg\,x$	$y' = \frac{1}{\cos^2 x} = 1 + tg^2 x = \sec^2 x$	$y = tg(f(x))$	$y' = \frac{f'(x)}{\cos^2(f(x))} = f'(x) \cdot (1 + tg^2(f(x))) = f'(x) \sec^2(f(x))$
$y = cotg\,x$	$y' = \frac{-1}{sen^2 x} = -(1 + cotg^2 x) = -cosec^2 x$	$y = cotg(f(x))$	$y' = \frac{-f'(x)}{sen^2(f(x))} = -f'(x) \cdot (1 + cotg^2(f(x))) = -f'(x) cosec^2(f(x))$
$y = \sec x$	$y' = \frac{senx}{\cos^2 x}$	$y = \sec(f(x))$	$y' = \frac{sen(f(x))}{\cos^2(f(x))} f'(x)$
$y = \sec x$	$y' = \frac{senx}{\cos^2 x}$	$y = \sec(f(x))$	$y' = \frac{sen(f(x))}{\cos^2(f(x))} f'(x)$
$y = cosec\,x$	$y' = \frac{-\cos x}{sen^2 x}$	$y = cosec(f(x))$	$y' = \frac{-\cos(f(x))}{sen^2(f(x))} f'(x)$
$y = arcsen\,x$	$y' = \frac{1}{\sqrt{1 - x^2}}$	$y = arcsen(f(x))$	$y' = \frac{f'(x)}{\sqrt{1 - f(x)^2}}$
$y = \arccos x$	$y' = \frac{-1}{\sqrt{1 - x^2}}$	$y = \arccos(f(x))$	$y' = \frac{-f'(x)}{\sqrt{1 - f(x)^2}}$
$y = arctg\,x$	$y' = \frac{1}{1 + x^2}$	$y = arctg(f(x))$	$y' = \frac{f'(x)}{1 + f(x)^2}$